

Patent Application
Docket no.: ATS/0100-aAPC/DIV1Amendment

In the Claims. Please amend claims 1, 2, 6, and 7, cancel claims 4, 5, 9, and 11, and add new claims 12-15, as follows:

1. (currently amended) An artificial antigen presenting cell, comprising:
 - a) a liposome comprising a lipid bilayer, wherein the lipid bilayer is comprised of neutral phospholipids and cholesterol;
 - b) at least one GM-1 ganglioside molecule disposed in the lipid bilayer;
 - c) at least a portion of a cholera toxin β subunit bound to associated with a GM-1 ganglioside molecule;
 - d) an immunologically active MHC component loaded with an antigen, wherein the antigen-loaded MHC component is bound to associated with the cholera toxin β subunit; and
 - e) an accessory molecule that can stabilize an interaction between a T cell receptor and the antigen-loaded MHC component.
2. (currently amended) An artificial antigen presenting cell according to claim 1 having a plurality of GM-1 ganglioside molecules, wherein a portion of the GM-1 ganglioside molecules form rafts in the lipid bilayer of the liposome.
3. (previously presented) An artificial antigen presenting cell according to claim 2 wherein said rafts are present in said lipid bilayer at high density.
4. (canceled)
5. (canceled)
6. (currently amended) An artificial antigen presenting cell, comprising:

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- a) a liposome comprising a lipid bilayer, wherein the lipid bilayer is comprised of neutral phospholipids and cholesterol;
- b) at least one GM-1 ganglioside molecule disposed in the lipid bilayer;
- c) at least a portion of a cholera toxin β subunit bound to associated with a GM-1 ganglioside molecule;
- d) at least one tetravidin molecule bound to associated with the cholera toxin β subunit lipid bilayer;
- e) an immunologically active a biotinylated MHC component loaded with an antigen, wherein the biotinylated MHC component loaded with antigen is associated with bound to the tetravidin molecule of (d) cholera toxin β -subunit; and
- f) an a biotinylated accessory molecule that can stabilize an interaction between a T cell receptor and the antigen-loaded MHC component, wherein the biotinylated accessory molecule is bound to associated with a the tetravidin molecule of (d).

7. (currently amended) An artificial antigen presenting cell according to claim 6 having a plurality of GM-1 ganglioside molecules, wherein a portion of the GM-1 ganglioside molecules form rafts in the lipid bilayer of the liposome.

8. (previously presented) An artificial antigen presenting cell according to claim 7 wherein said rafts are present in said lipid bilayer at high density.

9. (canceled)

10. (previously presented) An artificial antigen presenting cell according to claim 8 further comprising irrelevant molecules selected from the group consisting of molecules for binding said artificial antigen presenting cells to a solid support, and a label.

11. (canceled)

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12. (new) An artificial antigen presenting cell according to claim 1 wherein the neutral phospholipids are phosphotidylcholine.
13. (new) An artificial antigen presenting cell according to claim 6 wherein the neutral phospholipids are phosphotidylcholine.
14. (new) An artificial antigen presenting cell according to claim 1 wherein the lipid bilayer is a fluid lipid bilayer.
15. (new) An artificial antigen presenting cell according to claim 1 wherein the lipid bilayer is a fluid lipid bilayer.